

CLAIMS

1. (previously presented) A coin mechanism comprising:
at least one coin tube, each of which stores coins of a respective denomination;
a dispenser for controlling the dispensing of coins from the at least one coin tube, and
a coin mechanism controller suitable for connection to a controller in an automatic transaction system so as to receive change dispense signals from the automatic transaction system controller indicating the number and denomination of coins to be dispensed as change to a customer, wherein the coin mechanism controller, when connected to the automatic transaction system controller, serves as an interface between the automatic transaction system controller and the dispenser, and wherein the coin mechanism controller is programmed to re-determine the number and denomination of coins to be dispensed as change based on received change dispense signals.
2. (previously presented) The coin mechanism of claim 1 wherein the coin mechanism controller is programmed to re-determine the coin denominations in which the change is to be dispensed by taking into account the distribution and denominations of coins in the at least one coin tube.
3. (previously presented) The coin mechanism of claim 1 wherein the coin mechanism controller is programmed to re-determine the number and denomination of coins in which the change is to be dispensed when the set of available coin denominations in the at least one coin tube differs from the set of coin denominations which the automatic transaction system controller is programmed to handle.

4. (currently amended) The coin mechanism of claim 1 wherein the coin mechanism controller is programmed to re-determine the number and denomination of coins in which the change is to be dispensed when the set of available coin denominations in the at least one coin tube differs from the coin denominations corresponding to the change dispense signals received from the automatic transaction system controller.

5. (currently amended) A coin mechanism according to claim 1 comprising a coin mechanism controller suitable for connection to an automatic transaction system controller capable of providing signals indicating the number and denomination of coins in which change is to be dispensed using three different coin denominations, wherein the coin mechanism comprises four coin tubes for storing, respectively, coins of four different denominations.

6. (currently amended) A coin mechanism according to claim 1 comprising a coin mechanism controller suitable for connection to an automatic transaction system controller capable of providing signals indicating the number and denomination of coins in which change is to be dispensed using three different coin denominations, wherein the coin mechanism comprises two coin tubes for storing coins of a first denomination and two coin tubes for storing coins of a second denomination.

7. (currently amended) A coin mechanism according to claim 1 comprising a coin mechanism controller suitable for connection to an automatic transaction system controller capable of providing signals indicating the number and

denomination of coins in which change is to be dispensed using three different coin denominations, wherein the coin mechanism comprises four coin tubes for storing coins of a single denomination.

8. (currently amended) The coin mechanism of claim 5 wherein the three coin denominations are U.S. nickels, dimes and quarters, and wherein the four coin denominations are U.S. nickels, dimes, quarters and ~~one-dollar~~ one-dollar coins.

9. (original) The coin mechanism of claim 2 wherein the coin mechanism controller is programmed to re-determine the number and denomination of coins in which the change is to be dispensed using as many available higher denomination coins as possible.

10. (does not correspond to Count) A coin mechanism comprising:
at least one coin tube, each of which stores coins of a respective denomination;

a dispenser for controlling the dispensing of coins from the at least one coin tube; and

a coin mechanism controller suitable for connection to a controller in an automatic transaction system so as to receive change dispense signals from the automatic transaction system controller indicating the form of dispensing change to a customer, wherein the coin mechanism controller, when connected to the automatic transaction system controller, serves as an interface between the automatic transaction system controller and the dispenser, wherein the coin mechanism controller is programmed to monitor the change dispense signals from the automatic transaction system controller, to

accumulate values corresponding to the monitored signals, to re-determine coin denominations in which the change is to be dispensed by taking into account the distribution and denominations of coins in the at least one coin tube, and to control the dispenser to dispense change from the at least one coin tube only after no further change dispense signal is received for at least a specified duration following the previous change dispense signal.

11. (previously presented) A coin mechanism comprising:
at least one coin tube, each of which stores coins of a respective denomination;
a dispenser for controlling the dispensing of coins from the at least one coin tube; and
a coin mechanism controller suitable for connection to a controller in an automatic transaction system so as to receive change dispense signals from the automatic transaction system controller indicating the form of dispensing change to a customer, wherein the coin mechanism controller, when connected to the automatic transaction system controller, serves as an interface between the automatic transaction system controller and the dispenser, wherein the coin mechanism controller is programmed to monitor the change dispense signals from the automatic transaction system controller, to accumulate values corresponding to the monitored signals, to re-determine coin denominations in which the change is to be dispensed by taking into account the distribution and denominations of coins in the at least one coin tube, and to control the dispenser to dispense change from the at least one coin tube once the accumulated total value is at least equal to or higher than the value of the highest available coin denomination in the at least one coin tube.

12. (previously presented) A coin mechanism comprising:
at least one coin tube, each of which stores coins of a respective denomination;
a dispenser for controlling the dispensing of coins from the at least one coin tube; and
a coin mechanism controller suitable for connection to a controller in an automatic transaction system so as to receive change dispense signals from the automatic transaction system controller indicating the form of dispensing change to a customer, wherein the coin mechanism controller, when connected to the automatic transaction system controller, serves as an interface between the automatic transaction system controller and the dispenser, wherein the coin mechanism controller is programmed to monitor the change dispense signals from the automatic transaction system controller, to accumulate values corresponding to a predetermined number of the monitored signals, to re-determine coin denominations in which the change is to be dispensed by taking into account the distribution and denominations of coins in the at least one coin tube, and to control the dispenser to dispense change from the at least one coin tube immediately following receipt of the predetermined number of monitored signals.

13. (previously presented) An automatic transaction system comprising:
a coin insert slot;
a coin return;
a system controller for determining an amount of change due a customer and the number and denominations of coins in which the change is to be dispensed,

wherein the system controller uses a particular set of coin denominations for determining a form in which change is to be dispensed;

a coin mechanism connected to the coin insert slot and the coin return,
comprising:

(a) sensors for generating signals indicative of the characteristics of an inserted coin;

(b) a coin mechanism controller programmed to determine whether the inserted coin is acceptable based on the signals generated by the sensors;

(c) at least one coin tube for storing, respectively, acceptable coins of at least one denomination;

(d) a dispenser for controlling the dispensing of coins from the at least one coin tube in response to dispense signals from the coin mechanism controller; and

communication lines connecting the coin mechanism controller and the system controller, whereby the coin mechanism receives change dispense signals from the system controller indicating the number and denominations of coins in which change is to be dispensed, and wherein the coin mechanism controller is programmed to re-determine the number and denominations of coins in which the change is to be dispensed by taking into account the distribution and denominations of coins in the at least one coin tube.

14. (previously presented) The automatic transaction system of claim 13 comprising a plurality of coin tubes, wherein the coin tubes store a different set of coin denominations from the coin denominations used by the system controller for determining the form in which change is to be dispensed.

15. (previously presented) The automatic transaction system of claim 13 comprising a plurality of coin tubes, wherein the coin tubes store, respectively, four different coin denominations and wherein the system controller uses a set of three different coin denominations for determining the form in which change is to be dispensed.

16. (does not correspond to Count) A coin mechanism suitable for receiving a removable, replaceable cassette having at least one coin tube for storing, respectively, coins of a respective denomination, the coin mechanism comprising:

a coin mechanism controller suitable for connection to a controller in an automatic transaction system so as to receive change dispense signals from the automatic transaction system controller indicating the coin denominations in which change is to be dispensed to a customer, wherein the coin mechanism controller, when connected to the automatic transaction system controller, serves as an interface between the automatic transaction system controller and a coin dispenser, and wherein the coin mechanism controller is programmed to re-determine the number and denominations of coins in which the change is to be dispensed by taking into account the distribution and denominations of coins in the at least one coin tube;

a dispenser for controlling, in response to dispense signals from the coin mechanism controller, the dispensing of coins from the at least one coin tube in the cassette; and

a keypad for entering a code to identify to the coin mechanism controller an arrangement and corresponding denominations of the at least one coin tube in the cassette.

17. (does not correspond to Count) The coin mechanism of claim 16 further comprising a coin passageway, sensors for generating signals indicative of the characteristics of an inserted coin, and a coin separator, wherein the coin mechanism controller is further programmed to determine whether an inserted coin is acceptable and to determine the denomination of the coin based on the signals generated by the sensors, and wherein the coin mechanism controller controls the coin separator to divert an accepted coin to one of the at least one coin tube corresponding to the denomination of the accepted coin.

18. (previously presented) A method of providing change from an automatic transaction system comprising:

generating change dispense signals corresponding to the number and denomination of coins in which the change is to be dispensed;

receiving the change dispense signals in a coin mechanism controller;

re-determining in the coin mechanism controller the number and denomination of coins in which the change is to be dispensed by taking into account the distribution and denominations of coins in coin tubes associated with the coin mechanism;

generating in the coin mechanism controller new change dispense signals based on the step of re-determining to control the operation of a coin dispenser; and

dispensing coins from the coin tubes according to the number and denominations determined by the coin mechanism controller.

19. (original) The method of claim 18 wherein re-determining occurs when the set of available coin denominations in the coin tubes differs from the set of coin denominations corresponding to the signals received by the coin mechanism controller.

20. (original) The method of claim 18 wherein re-determining comprises re-determining the number and denomination of coins in which the change is to be dispensed using as many available higher denomination coins as possible.

21. (does not correspond to Count) A method of providing change from an automatic transaction system comprising:

generating change dispense signals corresponding to the number and denomination of coins in which the change is to be dispensed;

receiving the change dispense signals in a coin mechanism controller;

monitoring the coin dispense signals received in the coin mechanism controller;

accumulating values corresponding to the monitored signals;

re-determining the number and denomination of coins in which the change is to be dispensed by taking into account the distribution and denominations of coins in coin tubes associated with the coin mechanism;

generating new change dispense signals based on the step of re-determining to control the dispenser to dispense change from the coin tubes only after no further coin dispense signal is received by the coin mechanism controller for at least a specified duration following the previously received change dispense signal.

22. (previously presented) A method of providing change from an automatic transaction system comprising:

generating change dispense signals corresponding to the number and denomination of coins in which the change is to be dispensed;

receiving the change dispense signals in a coin mechanism controller;

monitoring the coin dispense signals received in the coin mechanism controller;

accumulating values corresponding to the monitored signals;

re-determining the number and denomination of coins in which the change is to be dispensed by taking into account the distribution and denominations of coins in coin tubes associated with the coin mechanism;

generating new change dispense signals based on the step of re-determining to control the dispenser to dispense change from the coin tubes once the accumulated total value is at least equal to or higher than the value of the highest available coin denomination in the coin tubes.

23. (previously presented) A method of providing change from an automatic transaction system comprising:

generating change dispense signals corresponding to the number and denomination of coins in which the change is to be dispensed;

receiving the change dispense signals in a coin mechanism controller;

monitoring the coin dispense signals received in the coin mechanism controller;

accumulating values corresponding to a predetermined number of the monitored signals;

re-determining the number and denomination of coins in which the change is to be dispensed by taking into account the distribution and denominations of coins in coin tubes associated with the coin mechanism;

generating new change dispense signals based on the step of re-determining to control the dispenser to dispense change from the coin tubes immediately following receipt of the predetermined number of monitored signals.

24. (original) The method of claim 18 wherein generating change dispense signals includes generating signals corresponding to four quarters, and wherein dispensing includes dispensing a single one-dollar coin.

25.-35. (cancelled)

36. (previously presented) A coin mechanism comprising:
at least one coin tube each which stores coins of a respective denomination;
a dispenser for dispensing of coins from the at least one coin tube; and
a coin mechanism controller suitable for connection to a controller in an automatic transaction system so as to receive change dispense signals from the automatic transaction system controller indicating the form of dispensing change to a customer, wherein a set of available coin denominations in the at least one coin tube differs from a set of coin denominations for which the automatic transaction system controller is programmed, wherein the coin mechanism controller, when connected to the automatic transaction system controller, serves as an interface between the automatic transaction system controller and the dispenser, and wherein the coin mechanism controller is programmed to monitor the change dispense signals from the automatic transaction

system controller, to re-determine the form of paying out the change by accumulating a value corresponding to the monitored signals, and to control the dispenser to dispense a coin from the at least one coin tube, wherein the value of the dispensed coin corresponds to the accumulated value.

37. (previously presented) The coin mechanism of claim 36 wherein the dispensed coin has a denomination higher than the denomination of the coins for which the automatic transaction system controller is programmed.

38. (previously presented) A method of providing change from an automatic transaction system comprising:

generating change dispense signals corresponding to the number and denomination of coins in which the change is to be dispensed;

receiving the change dispense signals in a coin mechanism controller;

monitoring the change dispense signals received by the coin mechanism controller;

accumulating a value corresponding to the monitored signals;

re-determining the number and denomination of coins in which the change is to be dispensed by taking into account the distribution and denominations of coins in coin tubes associated with the coin mechanism, wherein re-determining occurs when a set of available coin denominations in the coin tubes differs from a set of coin denominations corresponding to the signals received by the coin mechanism controller; and

generating new change dispense signals based on the step of re-determining to control the dispenser to dispense a coin from the coin tubes, wherein the value of the dispensed coin corresponds to the accumulated value.

39. (does not correspond to Count) The coin mechanism of claim 16 wherein the coin mechanism controller is programmed to re-determine the number and denomination of coins in which the change is to be dispensed when the set of available coin denominations in the at least one coin tube differs from the set of coin denominations which the automatic transaction system controller is programmed to handle.

40. (does not correspond to Count) The coin mechanism of claim 16 wherein the coin mechanism controller is programmed to re-determine the number and denomination of coins in which the change is to be dispensed when the set of available coin denominations in the at least one coin tube differs from the coin denominations corresponding to the change dispense signals received from the automatic transaction system.

41. (does not correspond to Count) A coin mechanism according to claim 16 suitable for connection to an automatic transaction system controller capable of providing signals indicating the number and denomination of coins in which change is to be dispensed using three different coin denominations, wherein the coin mechanism comprises four coin tubes for storing, respectively, coins of four different denominations.

42. (does not correspond to Count) A coin mechanism according to claim 16 suitable for connection to an automatic transaction system controller capable of providing signals indicating the number and denomination of coins in which change is to be dispensed using three different coin denominations, wherein the coin mechanism

comprises two coin tubes for storing coins of a first denomination and two coin tubes for storing coins of a second denomination.

43. (does not correspond to Count) A coin mechanism according to claim 16 suitable for connection to an automatic transaction system controller capable of providing signals indicating the number and denomination of coins in which change is to be dispensed using three different coin denominations, wherein the coin mechanism comprises four coin tubes for storing coins of a single denomination.

44. (does not correspond to Count) The coin mechanism of claim 43 wherein the three coin denominations are U.S. nickels, dimes and quarters, and wherein the four coin denominations are U.S. nickels, dimes, quarters and one-dollars coins.

45. (does not correspond to Count) The coin mechanism of claim 16 wherein the coin mechanism controller is programmed to re-determine the number and denomination of coins in which the change is to be dispensed using as many available higher denomination coins as possible.

46. (does not correspond to Count) The coin mechanism of claim 10 wherein the coin mechanism controller is programmed to re-determine the number and denomination of coins in which the change is to be dispensed when the set of available coin denominations in the at least one coin tube differs from the set of coin denominations which the automatic transaction system controller is programmed to handle.

47. (does not correspond to Count) The coin mechanism of claim 10 wherein the coin mechanism controller is programmed to re-determine the number and denomination of coins in which the change is to be dispensed when the set of available coin denominations in the at least one coin tube differs from the coin denominations corresponding to the change dispense signals received from the automatic transaction system.

48. (does not correspond to Count) A coin mechanism according to claim 10 suitable for connection to an automatic transaction system controller capable of providing signals indicating the number and denomination of coins in which change is to be dispensed using three different coin denominations, wherein the coin mechanism comprises four coin tubes for storing, respectively, coins of four different denominations.

49. (does not correspond to Count) A coin mechanism according to claim 10 suitable for connection to an automatic transaction system controller capable of providing signals indicating the number and denomination of coins in which change is to be dispensed using three different coin denominations, wherein the coin mechanism comprises two coin tubes for storing coins of a first denomination and two coin tubes for storing coins of a second denomination.

50. (does not correspond to Count) A coin mechanism according to claim 10 suitable for connection to an automatic transaction system controller capable of providing signals indicating the number and denomination of coins in which change is to be dispensed using three different coin denominations, wherein the coin mechanism comprises four coin tubes for storing coins of a single denomination.

51. (does not correspond to Count) The coin mechanism of claim 50 wherein the three coin denominations are U.S. nickels, dimes and quarters, and wherein the four coin denominations are U.S. nickels, dimes, quarters and one-dollar coins.

52. (does not correspond to Count) The coin mechanism of claim 10 wherein the coin mechanism controller is programmed to re-determine the number and denomination of coins in which the change is to be dispensed using as many available higher denomination coins as possible.

53. (does not correspond to Count) The method of claim 21 wherein re-determining occurs when the set of available coin denominations in the coin tubes differs from the set of coin denominations corresponding to the signals received by the coin mechanism controller.

54. (does not correspond to Count) The method of claim 21 wherein re-determining comprises re-determining the number and denomination of coins in which the change is to be dispensed using as many available higher denomination coins as possible.

55. (does not correspond to Count) The method of claim 21 wherein generating change dispense signals includes generating signals corresponding to four quarters, and wherein dispensing includes dispensing a single one-dollar coin.